



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,563	03/17/2004	Takeshi Iwasaki	008312-0308798	3447

909 7590 10/19/2005

PILLSBURY WINTHROP SHAW PITTMAN, LLP
P.O. BOX 10500
MCLEAN, VA 22102

EXAMINER

FALASCO, LOUIS V

ART UNIT	PAPER NUMBER
----------	--------------

1773

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/801,563	Applicant(s) IWASAKI ET AL.	
	Examiner Louis Falasco	Art Unit 1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>March 17, 2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

PAPERS RECEIVED

The Information Disclosure Statement filed March 17, 2004 is acknowledged.

The Election filed August 8, 2005 is acknowledged.

CLAIMS

The claims are: 1 to 19

Election/Restriction of Invention

1. Applicant's election without traverse of Species A drawn to Carbide in the reply filed on August 8, 2005 is acknowledged.

Claim Rejections - 35 U.S.C. §103

Statutory Basis

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 to 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Oikawa et al** (US 2002/0136926) with either **Oikawa et al** (US 6884520) or **Shimizu et al** (US 6699600).

Oikawa et al (US 2002/0136926) teaches the requirements of these claims except having a perpendicular magnetic layer. **Oikawa et al** (US 2002/0136926) teaches a magnetic recording medium including: a nonmagnetic substrate, a first undercoating layer formed on the nonmagnetic substrate, a second undercoating layer formed on the first undercoating layer. The undercoat layer has crystal grains & boundary and a magnetic recording layer - see layer 4 of Fig. 1(a) paragraph [0022], paragraph [0015], [0030]. **Oikawa et al** (US 2002/0136926) teaches the worker of ordinary skill to advantageously divided the undercoat layer into (3) discrete layers as evident from Fig. 1(b) - underlayers 3a, 3b, 3c paragraph [0032]. These matching repeating layers inherently have at least an element in common since it is the same layer reoccurring as underlayers 3a, 3b, 3c (paragraph [0030], [0031]). Though the nature of the magnetic recording layer has not been specified in **Oikawa et al** (US 2002/0136926) a perpendicular recording layer is notoriously conventional in the recording art for hard drives, as demonstrated by **Oikawa et al** (US 6884520) at col. 4 lns 35-40 in explaining the element shown in Fig. 1; or taught by **Shimizu et al** at col. 2 lns 43, 44 noting the underlayer 3 also into split into like layers 3a, 3b at Fig. 1, col. 5 lns 5-43. Further, one of ordinary skill would expect the generic **Oikawa et al** (US 2002/0136926) magnetic layer

to include the expressly conventional perpendicular magnetic layer since the same thin film materials are taught for it in **Oikawa et al** (US 6884520) and **Shimizu et al** are the magnetic material taught in **Oikawa et al** (US 2002/0136926) - *cf* col. 5 lns 66 to col. 6 ln 23 of **Oikawa et al** (US 6884520) with paragraph [0035] of **Oikawa et al** (US 2002/0136926) or **Shimizu et al** col. 6 lns 22-33.

It would have been *prima facie* obvious to one having ordinary skill in the art at the time the invention was made to adopt the perpendicular recording magnetic layer taught as conventional by **Oikawa et al** (US 6884520) and **Shimizu et al** as the magnetic layer in **Oikawa et al** (US 2002/0136926) for the purpose of for use as a conventional hard disk drives. One skilled in the art would have been motivated to adopt the convention of perpendicular recording media as in **Oikawa et al** (US 6884520) and **Shimizu et al** in **Oikawa et al** (US 2002/0136926) calls for the utility in conventional recording medium drives, paragraph [0040].

As to the materials and portions of claims 2, 3, 9, 12, 19 see **Oikawa et al** (US 6884520) col. 2 ln 4, col. 5 ln 27, col. 6 lns 13-26, col. 3 ln 34, 35.

As to the crystal structure of claims 6 and 16 see **Oikawa et al** (US 6884520) col. 3 ln 32.

Double Patenting Rejections

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1 to 19 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 to 13 of copending Application No. 10/788259 (corresponding to US 2004/0224185) in view of Shimizu et al (US 6699600) or Oikawa et al (US 2002/0136926).

Copending Application No. 10/788259 claim the magnetic recording medium of claims 1 to 19 except calling for *perpendicular* magnetic recording medium and not claiming a first undercoating layer containing at least one of the *same* elements for

crystal grains with boundary of a second undercoating layer. Application No. 10/788259 claims a magnetic recording medium comprised of a nonmagnetic substrate, a first undercoating layer on the substrate, a second undercoating layer on the first undercoating having crystal grains & boundary containing a carbide compound, with a magnetic recording layer on the second layer.

However, the claimed magnetic layer of Application No. 10/788259 is based on their disclosure of a *perpendicular* magnetic recording layer, see paragraph [0034] and **Shimizu et al** teaches having the same elements in paired underlayer orientation control layers (layer 3a – col. 5 lns 13, 14 and layer 3b col. 5 ln 40) as does **Oikawa et al** (US 2002/0136926) showing an underlayer may be in discrete layers in Fig. 1(b) - see 3a, 3b, 3c for separated non-magnetic underlayers, paragraph [0032], inherently repeating the common carbide since it's the same reoccurring layer – see paragraph [0030], [0031].

It would have been obvious to one having ordinary skill in the art at the time the invention was made to adopt having the same elements in paired underlayers shown by **Shimizu et al** or **Oikawa et al** (US 2002/0136926) in claims of copending Application No. 10/788259 for the purpose of improving the recording characteristics of the media. One skilled in the art would have been motivated to adopt **Shimizu et al** or **Oikawa et al** (US 2002/0136926) in claims of copending Application No. 10/788259 with the expectation of enhancing of flux density of the recording media during use (see **Shimizu et al** col. 1 lns 25-29 or **Oikawa et al** (US 2002/0136926) paragraph [0008].

OTHER REFERENCES

Uwazumi et al (US 2003/0157375) is cited as being of interest hexagonal closed packed underlayers (Fig. 1).

CONCLUSION

The claims are 1 to 19.

- Restriction has been required.
- No claim has been allowed.
- Information Disclosure Statement has been received and considered in this action.

INQUIRES

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Louis Falasco, PhD whose telephone number is (571)272-1507. The examiner can normally be reached on M-F 10:30 - 7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol D. Chaney, PhD can be reached at (571)272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published

Art Unit: 1773

applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LF

LF
10/05


CAROL CHANEY
SUPERVISORY PATENT EXAMINER